115 49 27 38 (207)

ZENOAH®

G
B

OWNER'S MANUAL

BRUSHCUTTER

BK3420FL-EZ

Original Language

⚠ WARNING ⚠

- **Before using our products, please read this manual carefully to understand the proper use of your unit.**
- **Keep this manual handy.**

01-BK3420FL-EZ_GB_207__三.indd 1 12.9.21 1:24:07 PM

⚠ SAFETY FIRST

Instructions contained in warnings within this manual marked with a ⚠ symbol concern critical points which must be taken into consideration to prevent possible serious bodily injury, and for this reason you are requested to read all such instructions carefully and follow them without fail.

NOTES ON TYPES OF WARNINGS IN THE MANUAL

⚠ WARNING

This mark indicates instructions, which must be followed in order to prevent accidents, which could lead to serious bodily injury or death.

❗ IMPORTANT

This mark indicates instructions, which must be followed, or it leads to mechanical failure, breakdown, or damage.

NOTE

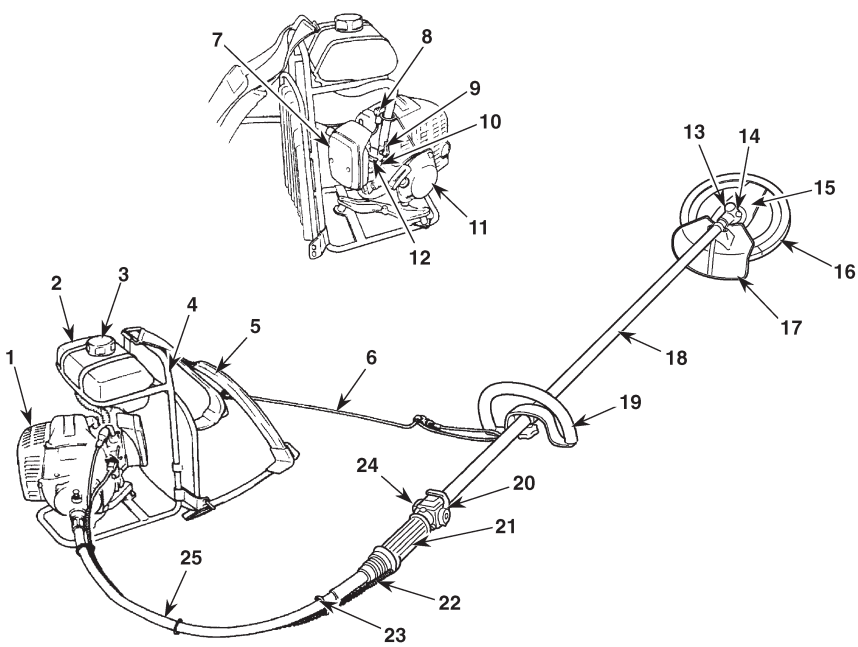
This mark indicates hints or directions useful in the use of the product.

Contents

1. Parts location 2
2. Specification 3
3. Symbols on the machine 3
4. Warning labels on the machine 4
5. For safe operation 5
6. Set up 9
7. Fuel 13
8. Operation 14
9. Maintenance 17
10. Troubleshooting 21
11. Disposal 21

1. Parts location

1. Muffler
2. Fuel tank
3. Fuel tank cap
4. Shoulder frame
5. Shoulder belt
6. Hanging belt
7. Air cleaner
8. Spark plug
9. Fuel cock
10. Carburetor
11. Recoil starter
12. Choke lever
13. Gear case
14. Tangle-prevention cover
15. Blade
16. Blade cover
17. Debris guard
18. Main pipe
19. Loop handle
20. Throttle lever
21. Right-hand grip
22. Throttle wire
23. Wire clamp
24. Engine stopping switch
25. Flexible shaft



01-BK3420FL-EZ_GB_207__三.indd 2 12.9.21 1:24:08 PM

2. Specification

Model		BK3420FL-EZ
Handle Type		Loop
Dry Weight (*1) kg		8.4
Over all size (L x W x H) mm		315 x 315 x 410
Total length of the control stick/ external shape of the main pipe mm		2304-ø24
Fuel Tank Capacity ℓ		1.3
Standard blade		10-inch, Chip saw
Power Transmission Method		Automatic centrifugal clutch, spiral gear
Reduction Rate		1.375 (19 : 14)
Blade Rotating Direction		Counterclockwise (from operator's view)
Engine	Displacement cc	33.6
	Fuel Used	Lubricating oil mixed gasoline
	Lubricating Oil Used	2-stroke engine oil
	Mixing rate	GASOLINE 25 : OIL 1 When using market oil (JASO FB grade oil or ISO-L-EGB grade oil) GASOLINE 50 : OIL 1 When using ZENOAH genuine oil, JASO FD grade oil or ISO-L-EGD grade oil
	Carburetor	Float-type piston valve
	Sparking Method	Fly wheel magnet (CDI)
	Spark Plug	Champion RCJ-6Y
	Starting Method	Pressure-accumulator type recoil starter (EZ start)

(*1) Excluding blade and fuel
Note that detailed specifications of the product might differ from the information described herein due to modifications, etc.

3. Symbols on the machine

For safe operation and maintenance, symbols are carved in relief on the machine. According to these indications, please be careful not to make a mistake.

The port to refuel the "MIX GASOLINE"
Position: FUEL TANK CAP

The direction to close the choke
Position: AIR CLEANER COVER

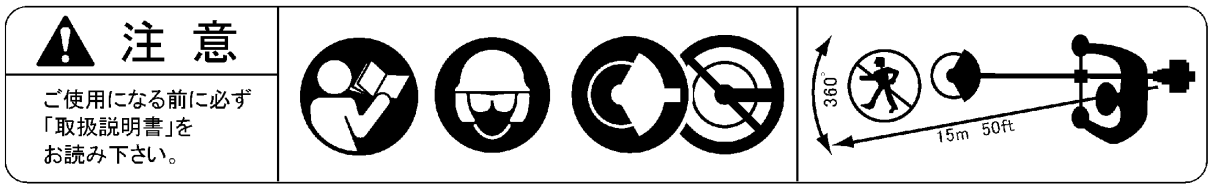
The direction to open the choke
Position: AIR CLEANER COVER

01-BK3420FL-EZ_GB_207__三.indd 3 12.9.21 1:24:08 PM

4. Warning labels on the machine

Warning / Attention

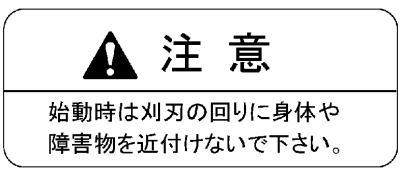
①



(1) (2) (3) (4)

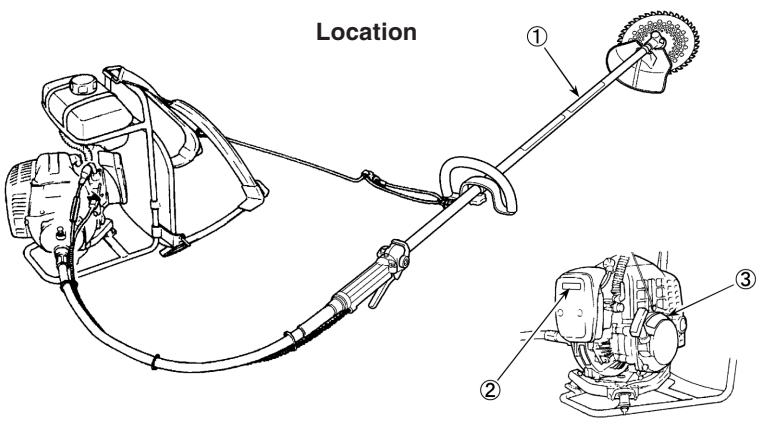
(1) Read owner's manual before operating this machine.
(2) Wear head, eye and ear protection.
(3) Don't remove the debris guard.
(4) Keep all children, bystanders and helpers 15 meters away from the brushcutter.

②

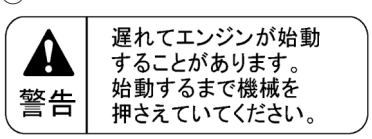


Keep the cutting blade around clear of person or object when start the engine.

Location



③



The engine may start in retard of pulling a recoil starter.
Hold the machine firmly till the engine run.

If warning label peels off or becomes soiled and impossible to read, you should contact the dealer from which you purchased the product to order new labels and affix them in the required location(s).

Never modify your machine.
We won't warrant the machine, if you use the remodeled trimmer or if you don't observe the proper usage written in the manual.

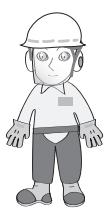
01-BK3420FL-EZ_GB_207__三.indd 4 12.9.21 1:24:08 PM

⚠ 5. For safe operation

1. Read this manual carefully until you completely understand and follow all safety and operating instructions.
2. Keep this manual handy so that you may refer to it later whenever any questions arise. Also note, if you have any questions which cannot be answered herein, contact the dealer from whom you purchased the product.
3. Always be sure to include this manual when selling, lending, or otherwise transferring the ownership of this product.
4. Never allow children or anyone unable to fully understand the directions given in the manual to use the machine.

■ WORKING CONDITION

1. When using the product, you should wear proper clothing and protective equipment.



(1) Helmet
(2) Ear protectors
(3) Protection goggles or face protector
(4) Thick work gloves
(5) Non-slip-sole work boots

2. And you should carry with you.
(1) Attached tools
(2) Properly reserved fuel
(3) Spare blade
(4) Things to notify your working area (rope, warning signs)
(5) Whistle (for collaboration or emergency)
(6) Hatchet or saw (for removal of obstacles)

3. Do not wear loose clothing, jewelry, short trousers, sandals, or go barefoot. Do not wear anything which might be caught by a moving part of the unit. Secure hair so it is above shoulder length.

■ WORKING CIRCUMSTANCE

1. Never start the engine inside a closed room or building. Exhaust gases contain dangerous carbon monoxide.

2. Never use the product,
(1) When the ground is slippery or when you can't maintain a steady posture.
(2) At night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to gain a clear view of the working area.
(3) During rain storms, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use the product.

■ WORKING PLAN

1. You should never use the product when under the influence of alcohol, when suffering from exhaustion or lack of sleep, when suffering from drowsiness as a result of having taken cold medicine or at any other time when a possibility exists that your judgment might be impaired or that you might not be able to operate the product properly and in a safe manner.
2. When planning your work schedule, allow plenty of time to rest. Limit the amount of time over which the product is to be used continuously to somewhere around 30 ~ 40 minutes per session, and take 10 ~ 20 minutes of rest between work sessions. Also try to keep the total amount of work performed in a single day under 2 hours or less.

⚠ WARNING

1. If you don't observe the working time, or working manner (**See "USING THE PRODUCT"**), Repetitive Stress Injury (RSI) could occur.
If you feel discomfort, redness and swelling of your fingers or any other part of your body, see a doctor before getting worse.
2. To avoid noise complaints, in general, operate product between 8 a.m. and 5 p.m. on weekdays and 9 a.m. to 5 p.m. on weekends.

01-BK3420FL-EZ_GB_207__三.indd 5 12.9.21 1:24:10 PM

⚠ 5. For safe operation

NOTE

Check and follow the local regulations as to sound level and hours of operations for the product.

■ BEFORE STARTING THE ENGINE

1. The area within a perimeter of 15 m of the person using the product should be considered a hazardous area into which no one should enter. If necessary, yellow warning rope, warning signs should be placed around the perimeter of the area. When work is to be performed simultaneously by two or more persons, care should also be taken to constantly look around or otherwise check for the presence and locations of other people working so as to maintain a distance between each person sufficient to ensure safety.
2. Check the condition of working area to avoid any accident by hitting hidden obstacles such as stumps, stones, cans, or broken glass.

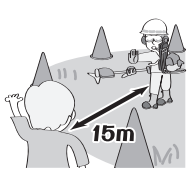
IMPORTANT

Remove any obstacle before beginning work.

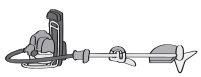
3. Inspect the entire unit for loose fasteners and fuel leakage. Make sure that the cutting attachment is properly installed and securely fastened.

4. Be sure the cutting attachment guard is firmly attached in place.
5. Always use the harness. Adjust the harness for comfort before starting the engine. The harness should be adjusted so the left hand can comfortably hold the handlebar grip approximately waist high.

■ STARTING THE ENGINE



1. Keep bystanders and animals at least 15 m away from the operating point. If you are approached, immediately stop the engine.
2. The product is equipped with a centrifugal clutch mechanism, so the cutting attachment begins to rotate as soon as the engine is started by putting the throttle trigger into the start position. When starting the engine, place the product onto the ground in a flat clear area and hold it firmly in place so as to ensure that neither the cutting part nor the throttle trigger come into contact with any obstacle when the engine starts.

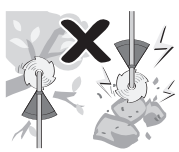


⚠ WARNING

Never place the throttle trigger into the high-speed position when starting the engine.

3. After starting the engine, check to make sure that the cutting attachment stops rotating when the throttle is moved fully back to its original position. If it continues to rotate even after the throttle trigger has been moved fully back, turn off the engine and take the unit to your authorized ZENOAH servicing dealer for repair.

■ USING THE PRODUCT



IMPORTANT

Cut only materials recommended by the manufacturer. And use only for tasks explained in the manual.

1. Grip the handles firmly with both hands using your whole hand. Place your feet slightly apart (slightly further apart than the width of your shoulders) so that your weight is distributed evenly across both legs, and always be sure to maintain a steady, even posture while working.
2. Keep cutting attachment below waist level.
3. Maintain the speed of the engine at the level required to perform cutting work, and never raise the speed of the engine above the level necessary.

4. If the unit starts to shake or vibrate, turn off the engine and check the whole unit. Do not use it until the trouble has been properly corrected.
5. Keep all parts of your body away

01-BK3420FL-EZ_GB_207__三.indd 6 12.9.21 1:24:12 PM

⚠ 5. For safe operation

from rotating cutting attachment and hot surfaces.

6. Never touch the muffler, spark plug, or other metallic parts of the engine while the engine is in operation or immediately after shutting down the engine. Doing so could result in serious burns or electrical shock.

■ IF SOMEONE COMES

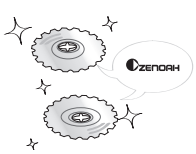
1. Guard against hazardous situations at all times. Warn adults to keep pets and children away from the area. Be careful if you are approached. Injury may result from flying debris.
2. If someone calls out or otherwise interrupts you while working, always be sure to turn off the engine before turning around.

■ MAINTENANCE

1. In order to maintain your product in proper working order, perform the maintenance and checking operations described in the manual at regular intervals.
2. Always be sure to turn off the engine and disconnect the spark plug wire before performing any maintenance or checking procedures.

⚠ WARNING

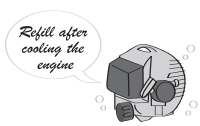
The metallic parts reach high temperatures immediately after stopping the engine.



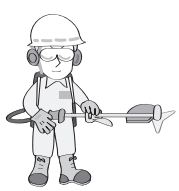
3. When replacing the cutting attachment or any other part, or when replacing the oil or any lubricant, always be sure to **use only ZENOAH products or products which have been certified by ZENOAH for use with the ZENOAH product**.
4. In the event that any part must be replaced or any maintenance or repair work not described in this manual must be performed, please contact a representative from the store nearest ZENOAH authorized servicing dealer for assistance.
5. Do not use any accessory or attachment other than those bearing the ZENOAH mark and recommended for the unit.
6. Under no circumstances should you ever take apart the product or alter it in any way. Doing so might result in the product becoming damaged during operation or the product becoming unable to operate properly.

■ HANDLING FUEL

1. The engine of the ZENOAH product is designed to run on a mixed fuel, which contains highly flammable gasoline. Never store cans of fuel or refill the tank of the unit in any place where there is a boiler, stove, wood fire, electrical sparks, welding sparks, or any other source of heat or fire which might ignite the fuel.
2. Never smoke while operating the unit or refilling its fuel tank.
3. When refilling the tank, always turn off the engine and allow it to cool down. Take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refueling.
4. Wipe spilled fuel completely using a dry rag if any fuel spillage occurs during refueling.
5. After refueling, screw the fuel cap back tightly onto the fuel tank and then carry the unit to a spot 3 m or more away from where it was refueled before turning on the engine.



■ TRANSPORTATION



1. When hand-carrying the product, cover over the cutting part if necessary, lift up the product and carry it paying attention to the blade.
2. Never transport the product over rough roads over long distances by vehicle without removing all fuel from the fuel tank. If doing so, fuel might leak from the tank during transport.

⚠ WARNING

■ CONTROLLING BLADE THRUST

Blade thrust can cause serious personal injury. Carefully study this section. It is important that

01-BK3420FL-EZ_GB_207__三.indd 7 12.9.21 1:24:13 PM

⚠ 5. For safe operation

you understand what causes blade thrust, how you can reduce the chance of blade thrust and how you can remain in control of the unit if blade thrust does occur.

1. What causes blade thrust:
Blade thrust can occur when the moving blade contacts an object that it cannot cut. This contact causes the blade to stop for an instant and then suddenly move or "bounce" away from the object that was hit. The operator can lose control of the unit and the blade can cause serious personal injury to the operator or any person nearby if the blade contacts any part of the body.

2. How you can reduce the chance of blade thrust:
(1) Recognize that blade thrust can happen. By understanding and knowing about bounce, you can help eliminate the element of surprise.
(2) Cut fibrous weeds and grass only. Do not let the blade contact materials it cannot cut such as hard, woody vines and brush or rocks, fences, metal, etc
(3) Be extra prepared for blade thrust if you must cut where you cannot see the blade making contact such as in areas of dense growth.
(4) Keep the blade sharp. A dull blade increase the chance of blade thrust.
(5) Avoid feeding the blade too rapidly. The blade can bounce away from material being cut if the blade is fed faster than its cutting capability.
(6) Cut only from your right to your left.
(7) Keep your path of advance clear of material that has been cut and other debris.

3. How you can maintain the best control:
(1) Keep a good, firm grip on the unit with both hands. A firm grip can help neutralize bounce. Keep your right and left hands completely around the respective handles.
(2) Keep both feet spread apart in a comfortable stance and yet braced for the possibility that the unit could bounce. Do not overreach. Keep firm footing and balance.

01-BK3420FL-EZ_GB_207__三.indd 8 12.9.21 1:24:13 PM

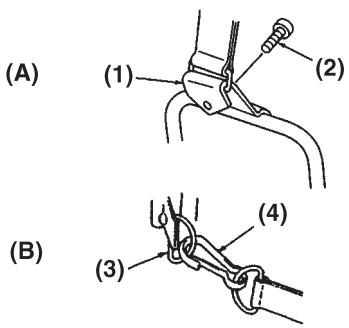
6. Set up

⚠ WARNING

- **Assemble each part correctly. Wrong assembly might cause an accident.**
- **If you cannot do the assembling yourself, consult the shop where you bought this product.**

■ ATTACHING THE SHOULDER STRAP

1. Pass the ring of the shoulder strap through the hook(A) and fix it by the bolt securely.
2. Set the hook(B) of each shoulder strap to the D-rings on the frame.



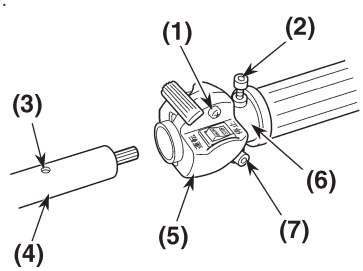
(A) UPPER SIDE
(B) LOWER SIDE
(1) Hook (A)
(2) Bolt
(3) D-ring
(4) Hook (B)

■ CONNECTING THE FLEXIBLE SHAFT

1. Remove the clamping bolt (M5xL10) in the center of the end of the joint, and loosen the fastening bolt (M5xL10) and the screw (M5xL18) for mounting the throttle lever.
2. Insert the main pipe into the joint while turning it clockwise and counterclockwise slightly.
3. Align the safety-lock hole of the joint with the hole of the main pipe, screw the clamping bolt and fasten it tightly.
4. Tighten the fastening bolt of the joint, and fix the main pipe firmly.

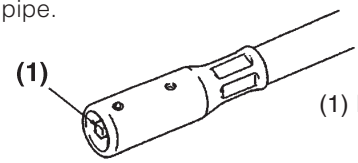
[Tightening torque]
4.9 to 7.8 N•m (0.5~0.8 kg•m)

5. Screw the throttle-lever mounting screw, and fasten it tightly.



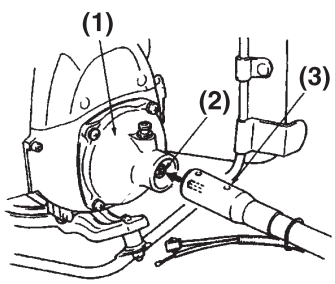
(1) Screw (M5xL18)
(2) Clamping bolt (M5xL10)
(3) Safety-lock hole
(4) Main pipe
(5) Throttle lever
(6) Joint
(7) Clamping bolt (M5xL10)

6. Stretch the main pipe and the flexible shaft straight, thrust the inner shaft into the main pipe while turning it by hand, and connect the inner shaft to the shaft of the main pipe. Unless the end of the inner shaft appears from the flexible shaft, the inner shaft has been correctly connected to the shaft of the main pipe.



(1) Inner shaft

7. Turn the hole at the end of the flexible shaft upward, align the square hole of the clutch dram with the direction of the inner shaft, and thrust the flexible shaft into the clutch housing until you hear a click.



(1) Clutch housing
(2) Clutch dram square-hole
(3) Hole

❗ IMPORTANT

After connecting the inner shaft to the shaft of the main pipe, try to pull out the flexible shaft by hand to make sure the flexible shaft does not come off.

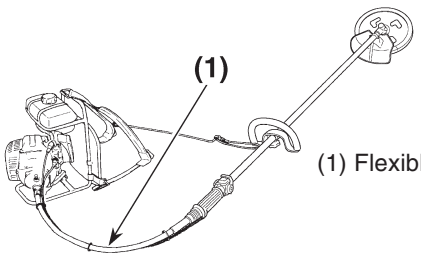
01-BK3420FL-EZ_GB_207__三.indd 9 12.9.21 1:24:14 PM

6. Set up

■ ADJUSTING THE PLAY OF THE THROTTLE WIRE

! IMPORTANT

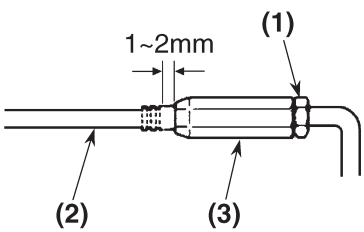
If you bend the flexible shaft, the amount of play of the throttle wire changes. Adjust the play while keeping the flexible shaft almost in the actual working condition.



(1) Flexible shaft

The play of the throttle wire that extends out of the carburetor with the throttle lever in its original place should be 1 to 2 mm when lightly pulled by finger. If the play is too large or small, readjust it as follows.

1. Loosen the lock nut and adjust the throttle wire with the wire brace so that the amount of play is appropriate. The play becomes larger when the wire brace is turned clockwise, and becomes smaller when the wire brace is turned counterclockwise.
2. Tighten the lock nut after adjusting the play, and fix the wire brace.



(1) Lock nut
(2) Throttle wire
(3) Wire brace

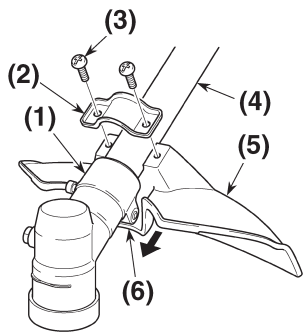
■ INSTALLING DEBRIS GUARD

⚠ WARNING

Do not use this machine without the debris guard.

Fit the top of the debris guard to the gear case, install the debris guard on the main pipe with the accessory clamp, and tighten the debris guard evenly with two Phillips screws (M5xL25).

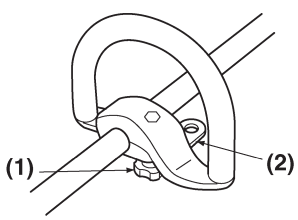
[Tightening torque]
2.6 to 4.9 N•m (27 to 50 kgf•cm)



(1) Gear case
(2) Clamp
(3) Phillips screw (M5xL25)
(4) Main pipe
(5) Safety-guard cover
(6) Fit this part to the gear case.

■ MOUNTING THE HANDLE

1. Mount the loop handle on the main pipe in accordance with the serial-number label. Turn the grip and tighten it slightly, then fasten the hanger plate together in the position shown in SE8.
2. Adjust the position of the loop handle to the position where you can work easily, and tighten the loop handle firmly.



(1) Grip
(2) Hanger plate

⚠ WARNING

- **Tighten the grip firmly. If the grip becomes loose, it might move while you are working, causing danger.**
- **Do not loosen or twist the grip while you are working.**
- **Always stop the engine and make sure the blade has stopped before adjusting the position of the loop handle.**

01-BK3420FL-EZ_GB_207__三.indd 10 12.9.21 1:24:14 PM

6. Set up

■ INSTALLING THE BLADE

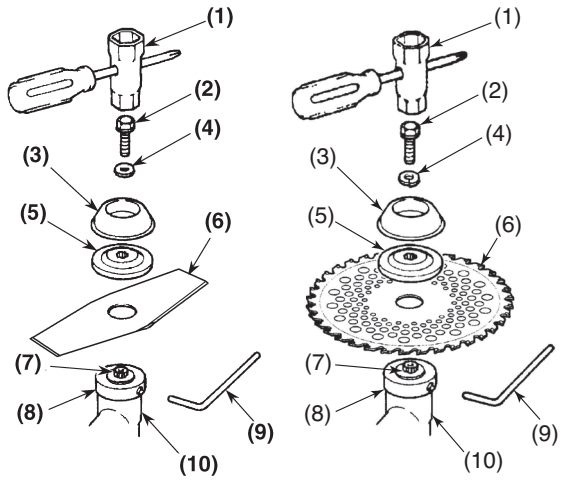
⚠ WARNING

- **Do not install or remove the blade while the engine is in operation.**
- **Use ZENOAH's genuine replacement blades and metal fixtures when installing the blade.**
- **When installing or removing the blade, fix the machine securely, and wear robust gloves.**
- **The blade turns counterclockwise (viewed from the gear case). When using an inside-out blade, check the direction of the blade before installing it. In particular, if you install a chip saw in the wrong direction, the chips might break and scatter.**

INSTALLING THE METAL BLADE

1. Remove the blade mounting bolt which is temporarily fastened in the gear shaft (and which can be loosened by turning it clockwise as it is a left-handed bolt) and the outer holder.
2. Put the blade on the blade rest plate with the blade surface on which there is writing facing toward the gear case, then fit the hole of the blade to the projecting part of the blade rest plate correctly.
3. Put the outer holder into the gear shaft with its convex surface facing toward the blade.
4. Put the bolt cover on the outer holder, stop the whirl of the blade rest plate with the L-shaped round rod, and put the spring washer into the blade mounting bolt (left-handed bolt). Then, tighten the bolt firmly.

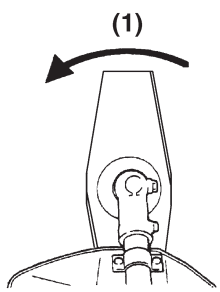
[Tightening torque]
14.7 to 19.6 N•m (150 to 200 kgf•cm)



(1) Socket wrench
(2) Blade mounting bolt
(3) Bolt cover
(4) Spring washer
(5) Outer holder
(6) Blade
(7) Gear shaft
(8) Blade rest plate
(9) L-shaped round rod
(10) Gear case

❗ IMPORTANT

Look at the blade from above, and make sure that the direction in which the blade is mounted is correct.



(1) Rotating direction

01-BK3420FL-EZ_GB_207__三.indd 11 12.9.21 1:24:14 PM

6. Set up

Installing the nylon cutter (available as an option)

IMPORTANT

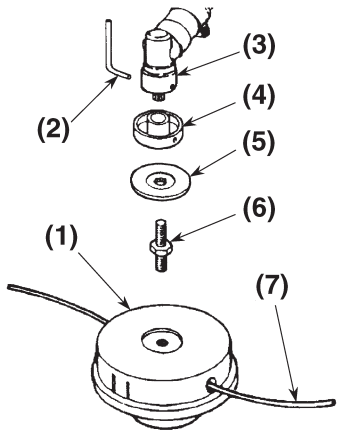
Since the resistance of the nylon cutter is larger than that of the metal cutter, wrong operation of the nylon cutter will cause the clutch to overheat, deform and be damaged. When using the nylon cutter, carefully note the following.

- Use ZENOAH's genuine nylon cutter. When using a commercially-available nylon cutter, make sure that it is no longer than 10 cm in external shape.
- Make sure that the length of the nylon cord is 17 cm or shorter.
- Keep the engine rotating at high speed while working.

1. Install the blade rest plate and the outer holder on the gear shaft correctly, and stop their whirl with the accessory L-shaped round rod.
2. Screw the mounting bolt (M7 left-handed) attached to the nylon cutter into the gear shaft, and tighten it firmly with a wrench.

[Tightening torque]
14.7 to 19.6 N•m (150 to 200 kgf•cm)

3. Screw the main body of the nylon cutter into the mounting bolt while fixing the blade rest plate with the L-shaped round rod, and tighten the main body of the nylon cutter firmly by hand.



(1) Main body of the nylon cutter
(2) L-shaped round rod
(3) Gear case
(4) Blade rest plate
(5) Outer holder
(6) Mounting bolt
(7) Nylon cord

NOTE

The bolt, washer, and other parts for mounting the blade are required when using the metal blade. Keep them carefully so as not to lose them.

01-BK3420FL-EZ_GB_207__三.indd 12 12.9.21 1:24:15 PM

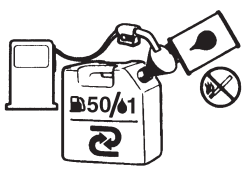
7. Fuel

■ FUEL

⚠ WARNING

- **Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel. Make sure to stop the engine and allow it cool before refueling the unit. Select outdoor bare ground for fueling and move at least 3 m (10 ft) away from the fueling point before starting the engine.**

- The Zenoah engines are lubricated by oil specially formulated for air-cooled 2-stroke gasoline engine use. If Zenoah oil is not available, use an anti-oxidant added quality oil expressly labeled for air-cooled 2-stroke engine use (JASO FD GRADE OIL or ISO-L-EGD GRADE).
- Do not use BIA or TCW (2-stroke water-cooling type) mixed oil.



■ RECOMMENDED MIXING RATIO

GASOLINE 25 : OIL 1
When using market oil (JASO FB grade oil or ISO-L-EGB grade oil)
GASOLINE 50 : OIL 1
When using ZENOAH genuine oil, JASO FD grade oil or ISO-L-EGD grade oil

- **Exhaust emission are controlled by the fundamental engine parameters and components (eq., carburation, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.**
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89RON (USA/Canada: 87AL).
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasolines or oils may damage sealing rings, fuel lines or fuel tank of the engine.

■ HOW TO MIX FUEL

⚠ WARNING

- **Pay attention to agitation.**

1. Measure out the quantities of gasoline and oil to be mixed.
2. Put some of the gasoline into a clean, approved fuel container.
3. Pour in all of the oil and agitate well.
4. Pour in the rest of gasoline and agitate again for at least one minute. As some oils may be difficult to agitate depending on oil ingredients, sufficient agitation is necessary for the engine to last long. Be careful that, if the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.
5. Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.
6. Indicate the contents on outside of container for easy identification.

■ FUELING THE UNIT

1. Untwist and remove the fuel cap. Rest the cap on a dustless place.
2. Put fuel into the fuel tank to 80% of the full capacity.
3. Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

⚠ WARNING

1. **Select flat and bare ground for fueling.**
2. **Move at least 10 feet (3 meters) away from the fueling point before starting the engine.**
3. **Stop the engine before refueling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.**

■ FOR YOUR ENGINE LIFE, AVOID:

1. FUEL WITH NO OIL (RAW GASOLINE) – It will cause severe damage to the internal engine parts very quickly.
2. GASOHOL – It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication.
3. OIL FOR 4-CYCLE ENGINE USE – It can cause spark plug fouling, exhaust port blocking, or piston ring sticking.
4. **Mixed fuels which have been left unused for a period of one month or more** may clog the carburetor and result in the engine failing to operate properly.
5. In the case of storing the product for a long period of time, clean the fuel tank after rendering it empty. Next, activate the engine and empty the carburetor of the composite fuel.
6. In the case of scrapping the used mixed oil container, scrap it only at an authorized repository site.

NOTE

As for details of quality assurance, read the description in the section Limited Warranty carefully. Moreover, normal wear and change in product with no functional influence are not covered by the warranty. Also, be careful that, if the usage in the instruction manual is not observed as to the mixed gasoline, etc. described therein, it may not be covered by the warranty.

01-BK3420FL-EZ_GB_207__三.indd 13 12.9.21 1:24:15 PM

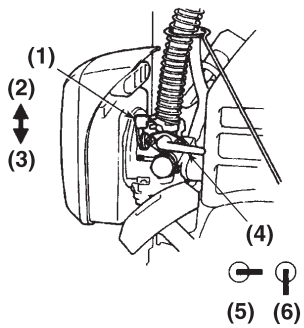
8. Operation

■ STARTING THE ENGINE

1. Open the fuel cock.
2. Raise the choke lever on the right of the air cleaner to close the choke.

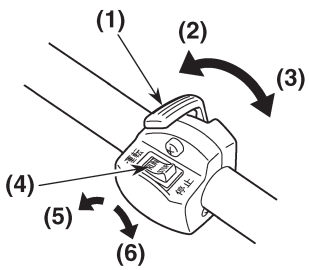
NOTE

When you start the engine again immediately after stopping it, pull out the starter rope while keeping the choke opened.



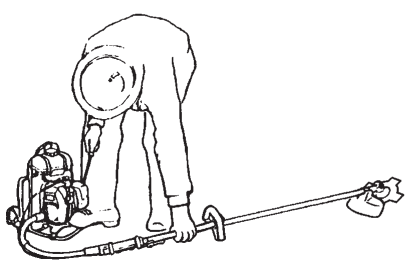
(1) Choke lever
(2) Close
(3) Open
(4) Fuel cock
(5) Closed
(6) Opened

3. Set the engine stop switch to “operation.”
4. Set the throttle lever to “idling.”



(1) Throttle lever
(2) Idling
(3) Fully opened
(4) Engine stop switch
(5) Operation
(6) Stop

5. Place the machine on a flat and firm place, and make sure to keep the blade clear of everything around it. Then, holding the main pipe with your left hand, put your right foot on the frame, and pull out the starter knob with your right hand.



IMPORTANT

Do not pull out the starter rope up to its end, and do not let the knob jump out of the right hand otherwise it may not return to its original position.

6. When the engine starts, open the choke gradually.
7. Allow the engine to run for 2 or 3 minutes to warm up before using the machine.

IMPORTANT

If you repeat the starting operation while leaving the choke closed, the electrodes of the spark plug might become wet and prevent starting. If this happens, try the starting operation again after opening the choke and pulling out the starter rope repeatedly, or after taking out the spark plug and drying the electrodes.

■ STOPPING THE ENGINE

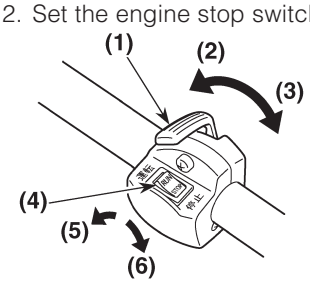
⚠ WARNING

- Stop the engine immediately in an emergency.
- The blade rotates by inertia for a while after the engine has stopped. Do not touch the blade until the engine has stopped completely.
- Do not touch the muffler or spark plug with bare hands immediately after the engines has stopped. Otherwise you may suffer burns because the muffler and spark plug are extremely hot.

IMPORTANT

If you stop the engine while keeping the revolution speed high, the engine could become damaged. Return the throttle lever to its original position and reduce the engine speed before stopping the engine except in an emergency.

1. Return the throttle lever to the idling position.
2. Set the engine stop switch to “stop.”



(1) Throttle lever
(2) Idling
(3) Fully opened
(4) Engine stop switch
(5) Operation
(6) Stop

⚠ WARNING

Make sure to close fuel cock when stopping engine.

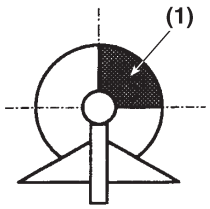
01-BK3420FL-EZ_GB_207__三.indd 14 12.9.21 1:24:15 PM

8. Operation

■ CUTTING OPERATION

⚠ WARNING

When using a metal blade, do not cut grass with the right half of the blade. Otherwise, the machine might kick back, causing a serious injury.



(1) Area of the blade where the machine is prone to kick back

⚠ WARNING

- **When using this machine, read and obey the precautions and instructions described in "For safe operation" (pages 5 to 8) of this manual.**
- **Before shouldering the main body of the brushcutter, return the throttle lever to the idling position and make sure the blade has stopped rotating.**
- **When shouldering the main body of the brushcutter, be careful that the throttle wire does not get tangled, and that the blade does not touch the ground.**

⚠ WARNING

This product employs a plot type carburetor. If the engine is tilted too much, the fuel in the breather or carburetor of the fuel tank might leak out. Do not tilt the engine upward or downward during cutting, or when storing or transporting the brushcutter.

❗ IMPORTANT

Be careful not to hit the blade against any object during cutting. Hitting the blade against stones, etc. might damage the blade and driving unit, or bend the main pipe.

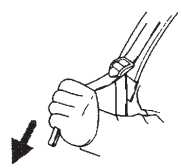
■ SHOULDERING THE MAIN BODY OF THE UNIT

1. Start the engine and allow it to warm up. Then, return the throttle lever to the idling position, and make sure that the blade does not rotate.
2. Make sure that there is no person or object near the machine. Then, holding the front part (on the blade side) of the handle of the main pipe with your left hand, hang the right shoulder belt on your right shoulder.
3. Shift the main pipe from the left hand to the right hand, and hang the left shoulder belt on your left shoulder.

4. Adjust the length of the left and right shoulder belts so that the shoulder frame is a little above the waist, and the weight of the main body of the machine is applied evenly on both shoulders.

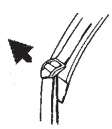
Method of adjusting the length of the belt.

To shorten the belt:



Pull down the end of the belt.

To lengthen the belt:



Pull up the lower end of the buckle.

5. Use of the hanging belt (an accessories) allows you to work comfortably without your arms becoming tired. Hook the hanging belt in the left or right shoulder belt and the hanger plate in which the loop handle is mounted, and adjust the length of the ganging belt to an easy-to-use length.

01-BK3420FL-EZ_GB_207__三.indd 15 12.9.21 1:24:15 PM

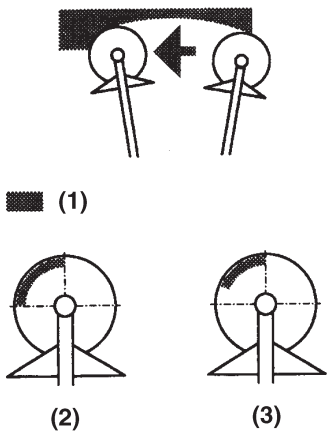
8. Operation

■ WHEN USING A METAL BLADE

- Swing the blade from right to left to cut grass.
- To cut usual grass, use the part of the blade corresponding to 1/2 of the diameter of the blade. To cut tough weeds such as Japanese pampas grass and Solidago altisima, use the part of the blade corresponding to 1/3 of the diameter of the blade.
- Adjust the rotation speed of the engine in accordance with the resistance of grass. Cut young grass at middle speed, and cut tough and thick grass such as Japanese mugwort and vines at high speed.

❗ IMPORTANT

Operating the engine at low speed might cause grass, weeds or twigs to be caught up in the blade. It also wears down the clutch more quickly.



(1) Usable area of the blade
(2) Area to be used for cutting young grass
(3) Area to be used for cutting tough grass

■ SELECTION OF BLADE

⚠ WARNING

- **When cutting branches and plants, always use a saw blade, and never use an eight-tooth blade or a four-tooth blade.**
- **If you cut grass and plants with the wrong type or size of blade, the blade might damage the shaft and external pipe of this machine.**

Select an appropriate blade to suit the material being cut.

CUTTER APPLICATION CHART	Saw blade	8-teeth blade	4-teeth blade	2-teeth blade	Nylon line head
Under growth	O				
Heavy weeds		O			
Light weeds			O	O	O
Grass					O

For details, refer to the operating manual supplied with each blade.

01-BK3420FL-EZ_GB_207__三.indd 16 12.9.21 1:24:16 PM

9. Maintenance

⚠ WARNING

- **Be sure to stop the engine when carrying out inspection and maintenance.**
- **Do not modify the machine or disassemble the engine.**
- **Use ZENOAH's genuine parts or designated parts when replacing parts.**
- **If you cannot inspect or maintain the machine yourself, contact the shop where you bought it.**

■ INSPECTION BEFORE AND AFTER CUTTING

Inspect the following items before and after cutting.

INSPECTION ITEMS			MEASURES
1	Blade	• The mounting bolt has become loose. • Broken, cracked, chipped, or bent. • The blade edges have worn out.	• Tighten • Replace • Re-sharpen or replace
2	Debris guard	• Mounted has become loose. • Broken.	• Tighten • Replace
3	Grip	• Oil has stuck to the grip.	• Wipe off
4	Throttle lever	• Does not move smoothly.	• Repair or replace
5	Throttle wire	• The play is too large or too small. • The throttle wire does not move smoothly.	• Repair • Repair or replace
6	Fuel tank	• Fuel leaks out. • The fuel pipe has been damaged.	• Repair or replace • Replace
7	Shoulder belt	• Broken or cracked.	• Repair or replace
8	Flexible shaft	• The connecting part has become loose. • Cut off, cracked, discolored, or deformed.	• Repair or replace • Replace
9	Gear case	• The shaft has become loose.	• Repair or replace
10	Parts to be tightened	• Loose or slipped off.	• Tighten or repair

■ REGULAR INSPECTION

Carry out inspection for each period of use as specified below.

INSPECTION AND MAINTENANCE ITEM		PERIOD OF USE			REMARKS
		25 hours	50 hours	100 hours	
Engine	Removal of dust from cylinder fin	O	O	O	
	Cleaning of the air cleaner element	O	O	O	
	Checking, cleaning and adjustment of the spark plug	O	O	O	Gap 0.6 to 0.7 mm
	Cleaning of the fuel tank		O	O	
	Additional tightening of the bolt for mounting the cylinder			O	
	Additional tightening of the parts for the engine			O	
	Removal of the carbon from the muffler			O	
Main body	Supply of grease for the gear case	O	O	O	
	Removal of the contamination of the clutch drum			O	
	Supply of grease for the flexible shaft	O	O	O	

01-BK3420FL-EZ_GB_207__三.indd 17 12.9.21 1:24:16 PM

9. Maintenance

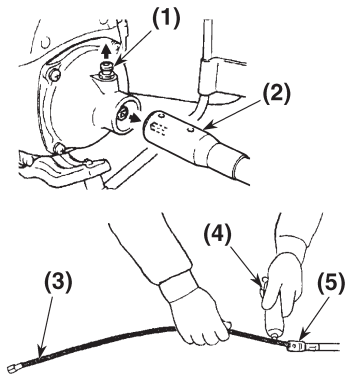
■ FLEXIBLE SHAFT

Apply grease to the flexible shaft every 25 hours use.

1. Take out the flexible shaft while raising the stopper of the clutch housing.
2. Take out the inner shaft, apply grease to the surface of the inner shaft, and insert the inner shaft into the liner.

Designated grease

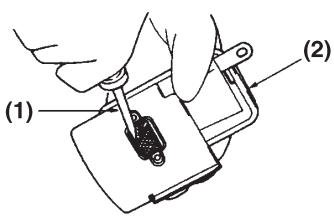
Lithium-based heat-resistant grease (#2)



(1) Stopper
(2) Liner
(3) Inner shaft
(4) Grease
(5) Liner

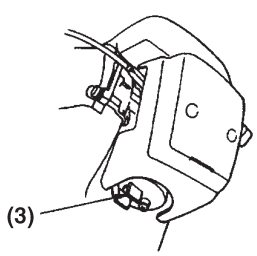
■ MAINTENANCE EVERY 100 HOURS

1. Remove the muffler, insert a screwdriver into the vent, and wipe off any carbon. Also, wipe off any carbon at the muffler outlet.



(1) Screwdriver
(2) Muffler

2. Further tighten all screws, bolts and fittings.
3. Make sure that no oil or grease remains between the clutch lining and the drum. If you see any there, wipe it off using oil-free, lead-free gasoline.
4. Remove the float chamber of the carburetor, and clean the inside of the float chamber.



(3) Float chamber

■ ADJUSTING THE ENGINE

⚠ WARNING

Continued rotation of the blade after the throttle lever is set to the idling position could be dangerous. If the blade continues to rotate even after readjusting the idling adjustment screw, the throttle lever, throttle wire, or clutch might be faulty. Contact the shop where you bought this product, and ask it to check and repair the trouble.

❗ IMPORTANT

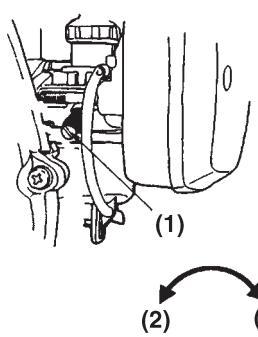
- The idling engine speed is adjusted when this product is shipped from the factory, but it might need to be readjusted according to changes in operation conditions (e.g. changes in the stability of the engine, air density, etc.). When readjustment is necessary, try to do so as described below. If this is difficult, contact the shop where you bought this product, and ask it to implement the readjustment.
- Make sure the throttle wire is parallel with the flexible shaft. If the throttle wire is twisted, straighten it.
- If the flexible shaft is bent, the play of the throttle wire changes. When you adjust the idling, bend the flexible shaft and adjust the idling in a standing position similar to the position in which you actually use the machine.

How to adjust the idling revolution speed

Warm up the engine at a medium speed for a few minutes after starting it. Turn the idling adjustment screw on the carburetor body using the screwdriver supplied as a standard accessory, and adjust the idling revolution speed to an appropriate value (when the throttle lever is returned to its original position, the blade does not rotate, and the engine does not stop).

The engine revolution speed increases when you turn the idling adjustment screw clockwise, and decreases when you turn it counterclockwise.

Standard idling revolution speed: 2,300 to 2,700 rpm



(1) Idling adjustment screw
(2) Rotation increases.
(3) Rotation decreases.

01-BK3420FL-EZ_GB_207__三.indd 18 12.9.21 1:24:17 PM

9. Maintenance

■ AIR CLEANER

Take off the air-cleaner cover and remove the dust inside the air cleaner every 25 hours of use.
When the air-cleaner element has become extremely contaminated, clean it thoroughly with warm water including a neutral detergent. Install it after drying it completely.
When the air-cleaner element has become deformed or damaged, replace it with a new one.

Part No.: Z1418-82130

❗ IMPORTANT

If the air-cleaner element becomes clogged, the output of the engine decreases and fuel consumption worsens. If you continue to operate the machine without an air-cleaner element, or with an air-cleaner element which has been deformed or damaged, the inside of the engine will wear severely.

(1) Air-cleaner element

■ FUEL FILTER

⚠ WARNING

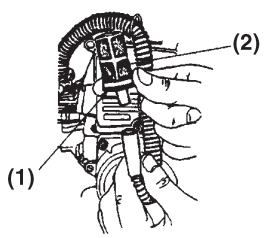
When you mount or dismount the fuel filter, be careful not to damage the rubber packing. A damaged rubber packing or insufficient mounting of the fuel filter will cause fuel to leak.

Check how heavily the fuel filter is clogged from the fueling port of the fuel tank every 25 hours of use.
If the fuel filter is clogged with dust, empty the fuel tank, take the fuel filter out, and clean it with a brush, etc.
If the clogging of the fuel filter cannot be removed or the fuel filter is damaged, replace it with a new one.

Part No.: Z4551-85100

❗ IMPORTANT

If the fuel filter is clogged, the engine rotation speed might not increase, or rotation fluctuations might occur.



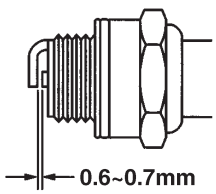
(1) Rubber packing
(2) Fuel filter

■ SPARK PLUG

⚠ WARNING

Do not touch the spark plug with bare hands immediately after stopping the engine. The spark plug is still so hot and might cause burns.

Take out the spark plug, check the electrodes, and if contaminated, clean them with a wire brush, etc. every 25 hours of use.
When mounting the spark plug, screw the plug in with your fingers, and then tighten it with the plug wrench supplied as a standard accessory.
The spark gap should be adjusted to 0.6 to 0.7 mm.



[Tightening torque]
9.8 to 11.8 N•m (100 to 120 kgf•cm)

Designated spark plug
Champion : RCJ-6Y
NGK : BPM7A

❗ IMPORTANT

If you use the plug wrench to start tightening the spark plug, the thread might become damaged.

■ AIR COOLING VENT

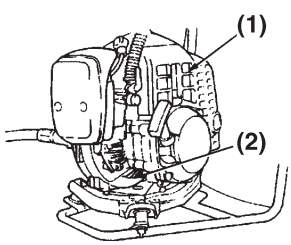
⚠ WARNING

Do not put any waste into the intake air-cooling vent while the machine is in operation. It might touch the rotating part, causing danger.

Check the intake air-cooling vent and the cooling fin of the cylinder, and remove any dirt attached thereto every 25 hours of use.

❗ IMPORTANT

If any waste or dirt is jammed between the intake air-cooling vent and the cylinder fin, the engine might overheat, causing trouble.



(1) Cylinder fin
(2) Intake air-cooling vent

01-BK3420FL-EZ_GB_207__三.indd 19 12.9.21 1:24:17 PM

9. Maintenance

■ GEAR CASE

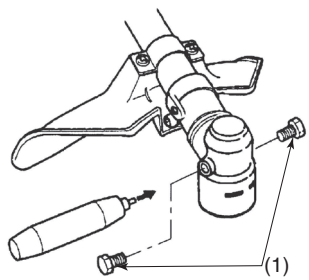
Supply lubricating grease to the gear case every 25 hours of use.

Designated grease

Lithium-based heat-resistant grease (#2)

[How to supply grease]

1. Remove plugs both sides of gear case, and pour grease from the one side plug hole.
2. Stop supplying the grease when all the old grease has been pushed out from the opposite plug hole, and mount the plug in its original position.
3. Wipe off the pushed-out grease, and mount the blade and the blade rest plate in their original positions.



(1) Plug

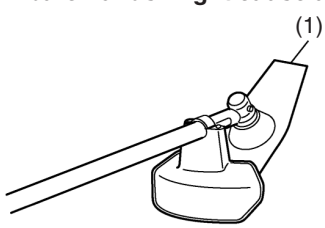
■ BLADE

⚠ WARNING

- **In order to carry out cutting work safely, be sure to check the blade before you begin and after you finish your work. If you continue to use a blade which has become loosened, chipped, cracked, broken, or bent, such a blade might disintegrate and broken pieces might hit you or adjacent workers, causing a serious injury.**
- **Be sure to stop the engine before checking the blade. If you check the blade with the engine still in operation, the blade might begin to rotate because of overturning of the machine, etc.**

⚠ WARNING

- **When checking the blade, be sure to stop the engine and wear gloves. Handling the blade with bare hands might cause an injury.**



(1) Blade

❗ IMPORTANT

Do not use a blade which has worn away and has become round. Such a blade does not cut well, and grass and twigs easily wind themselves around it, thus increasing the load on your arm during cutting and affecting the fuel consumption and life-span of the machine.

Be sure to check the blade before or after using the machine. If anything is wrong with the blade, replace it with a new one, or sharpen it again.

■ MAINTENANCE BEFORE LONG-TERM STORAGE

⚠ WARNING

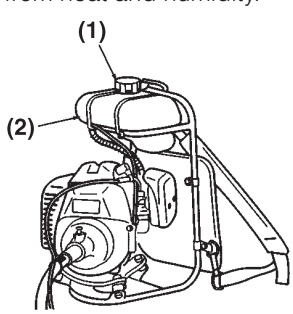
This machine is highly inflammable.

- **When you take fuel out, keep the fuel tank well away from flames.**
- **Be careful not to spill the fuel, and completely wipe off all fuel spills.**

❗ IMPORTANT

- If you will not use the machine for a long time (two months or more), take out the fuel from the fuel tank and carburetor. If you leave the fuel tank and carburetor filled with fuel for a long time, the fuel might deteriorate and clog the inside of the carburetor, thus causing engine problems (such as wrong start or insufficient output).
- When storing the machine for a long time, loosen the cap of the fuel tank slightly. Excessive tightening of the cap might deform its packing over time.

1. Brush off dirt from the machine, and check the damage or slack of each part. If you find any abnormal part, repair it completely ready for the next time the machine is used.
2. Extract fuel from the fuel tank, switch on the engine, and leave it running until it stops naturally.
3. Remove the spark plug, and pour 1 to 2 ml of 2-cycle oil into the engine. Draw the starter rope two to three times, set the plug back, and stop it at the contraction position.
4. Supply some grease to the gear case, and apply anti-rust oil to the metal parts such as the throttle wire.
5. Apply a little oil to the blade, put the cover on the blade, and keep the machine in a safe place away from heat and humidity.



(1) Tank cap
(2) Fuel tank

01-BK3420FL-EZ_GB_207__三.indd 20 12.9.21 1:24:18 PM

10. TroubleShooting

PHENOMENON	MAIN CAUSE	MEASURES
The engine does not start.	• Bad fuel (different quality, deterioration)	• Replace it with normal fuel (page 13).
	• Excessive sucking of fuel	• Open the choke, open the throttle full open, and pull out the rope repeatedly (page 14).
	• Clogging of the muffler exhaust vent	• Clean the muffler (page 18).
	• Contamination of the spark plug electrodes, Short-circuit or breaking of a wire	• Clean the electrodes or replace the plug (page 19☆).
The engine does not accelerate.	• Bad fuel (different quality, deterioration)	• Replace it with normal fuel (page 13).
	• Clogging of the muffler exhaust vent	• Clean the muffler (page 18).
The engine stop when the throttle is returned to its original position.	• The idling revolution speed is too low.	• Readjust the idling adjustment screw (page 18).
The engine rotation speed changes.	• Clogging of the fuel filter	• Clean or replace the fuel filter (page 19☆).
Abnormal vibration	• Deformation or damage of the blade	• Replace the blade (page 20☆).
Deterioration of fuel consumption	• Clogging of the air cleaner	• Clean the air cleaner (page 19).
	• Blunt blade	• Replace the blade (page 20☆).
	• Bad lubrication of the flexible shaft	• Supply grease (page 18).

- When the symptoms in the left column do not improve after taking the measures in the right column, please contact the shop where you bought this product.
- For the measures marked with ☆, please buy ZENOAH's genuine parts at the shop where you bought this product.

⚠ WARNING

- **Do not modify or disassemble the machine. Modification or disassembly of the machine might cause the machine to be damaged during operation, or cause an unexpected accident due to the leakage of fuel or malfunction of the machine.**
- **When you carry out inspection or maintenance of the machine, keep the machine clear of fire (such as a lit cigarette). Otherwise, the fuel might catch fire.**
- **Use ZENOAH's genuine or dedicated tightening parts (bolts, nuts and screws). Use of other manufacturers' parts might damage the machine, or cause an unexpected accident due to parts falling off while the machine is in operation.**

11. Disposal

- When you dispose of the machine, do not disassemble the machine.
- When you dispose of the machine, fuel, oil, be sure to follow your local regulations.

01-BK3420FL-EZ_GB_207__三.indd 21 12.9.21 1:24:18 PM

Limited warranty

Should any failure occur on the product under normal operating conditions within the applicable warranty period, the failed part will be replaced or repaired free of charge by a ZENOAH authorized dealer.

WARRANTY PERIOD: Six (6) months after purchased by end-user subject to 12 months from produced month. (30 days if used for rental purpose)

THE PURCHASER SHALL BEAR COSTS OF TRANSPORTING THE UNIT TO AND FROM THE ZENOAH DEALER.

THE PURCHASER SHALL NOT BE CHARGED FOR DIAGNOSTIC LABOR WHICH LEADS TO THE DETERMINATION THAT A WARRANTED PART IS DEFECTIVE, IF THE DIAGNOSTIC WORK IS PERFORMED AT THE ZENOAH DEALER.

THE PURCHASER OR OWNER IS RESPONSIBLE FOR THE PERFORMANCE OF THE REQUIRED MAINTENANCE AS DEFINED BY THE MANUFACTURER IN THE OWNER/OPERATOR MANUAL.

ANY WARRANTED PART WHICH IS NOT SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE, OR WHICH IS SCHEDULED ONLY FOR REGULAR INSPECTION TO THE EFFECT OF REPAIR OR "REPLACE AS NECESSARY" SHALL BE WARRANTED FOR THE WARRANTY PERIOD. ANY WARRANTED PART WHICH IS SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE SHALL BE WARRANTED FOR THE PERIOD OF TIME UP TO THE FIRST SCHEDULED REPLACEMENT POINT FOR THE PART.

ANY REPLACEMENT PART THAT IS EQUIVALENT IN PERFORMANCE AND DURABILITY MAY BE USED IN NON-WARRANTY MAINTENANCE OR REPAIRS, AND SHALL NOT REDUCE THE WARRANTY OBLIGATION OF THE COMPANY.

THE COMPANY IS LIABLE FOR DAMAGES TO OTHER ENGINE COMPONENTS CAUSED BY THE FAILURE OF A WARRANTED PART STILL UNDER WARRANTY.

THE WARRANTY DOES NOT APPLY TO THOSE UNITS WHICH HAVE BEEN DAMAGED BY NEGLIGENCE OF INSTRUCTION LISTED IN THE OWNER/OPERATOR MANUAL FOR PROPER USE AND MAINTENANCE OF THE UNITS ACCIDENT MISHANDLING, ALTERATION, ABUSE, IMPROPER LUBRICATION, USE OF ANY PARTS OR ACCESSORIES OTHER THAN THOSE SPECIFIED BY THE COMPANY, OR OTHER CAUSES BEYOND THE COMPANY'S CONTROL.

THIS WARRANTY DOES NOT COVER THOSE PARTS REPLACED BY NORMAL WEAR OR HARMLESS CHANGES IN THEIR APPEARANCE.

THERE ARE NO OTHER EXPRESS WARRANTIES.

ANY IMPLIED WARRANTY is limited to the duration of the limited warranty. Otherwise, this limited warranty is in lieu of all other expressed or implied warranties, including any warranty of **FITNESS FOR A PARTICULAR PURPOSE OR USE** and any implied warranty **MERCHANTABILITY** otherwise applicable to this product.

LIABILITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE UNDER ANY AND ALL WARRANTIES ARE EXCLUDED.

IF YOU NEED TO OBTAIN MORE INFORMATION, PLEASE CALL YOUR NEAREST SERVICE CENTER, OR CHECK PLEASE ZENOAH WEB SITE:
http://www.zenoah.net

01-BK3420FL-EZ_GB_207__三.indd 22 12.9.21 1:24:18 PM